

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014923**Date Inspected:** 18-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Li Hua Jia

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Segment Trial Assembly

This QA Inspector observed ZPMC welder Mr. Chen Zheng Hua, stencil 220067 is using shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make 2G (horizontal) position shielded metal arc repair weld SEG48B-047 as authorized on critical weld repair document B-CWR1618. This weld had been ultrasonically rejected and is located at OBG segment 8CE in the trial assembly area. This QA Inspector observed Mr. Chen Zheng Hua has a portable light that he is using to illuminate this weld repair area. This QA Inspector measured a welding current of approximately 160 amps and Mr. Chen Zheng Hua appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven. This QA Inspector observed that the weld and adjacent base material had been being preheated with an electric heating element that is located on the exterior side of this weld. Items observed on this date appeared to generally comply with applicable contract documents. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Mao Li Wei, stencil 045213 is using shielded metal arc process to

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perform tack welding of temporary alignment plates between OBG 8CW deck plate and counterweight near panel point PP67. This QA Inspector observed Mr. Mao Li Wei appears to be certified to make these welds. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container and a torch had been used to preheat the base material prior to welding. Items observed on this date appeared to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Tian Zhaoquan, stencil 045246 is using shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-Repair-1 to make shielded metal arc repair welds where magnetic particle indications had been removed on the bottom side of OBG deck plate 8BW near panel point PP67. This QA Inspector observed Mr. Tian Zhaoquan has a welding current of approximately 160 amps and Mr. Tian Zhaoquan appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven and the base material is being preheated with a torch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ji Hua, stencil 045227 is used flux cored welding procedure WPS-345-FCAW 2B(2F)-FCM-Repair-1 to make repair weld OBW8C-0014 as authorized on weld repair document B-WR1607. This weld repair document indicates that OBG segments 8BW and 8CW side plates have misalignment and that several welds are to be removed, and following heat straightening the side plates are to be rewelded together. This QA Inspector observed ZPMC CWI Mr. Liu Hua Jie has recorded welding current of 320 amps and 30.0 volts. This QA Inspector observed that Mr. Ji Hua appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed that ZPMC workers are using the air carbon arc process to gouge out ultrasonic rejections in OBG weld SEG047-049 as directed by critical weld repair B-CWR1628. This QA Inspector observed the weld and adjacent base material appears to have been preheated to a minimum of 60 degrees Celsius prior to gouging as required by the critical weld repair document. ZPMC CWI Mr. Liu Hua Jie informed this QA Inspector that ZPMC will be performing weld repairs of this area tomorrow during the dayshift. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Fu Peng, stencil 205718 is using shielded metal arc procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to perform minor welding repairs of a weld on traveler rail bracket TR1A-PP63-3G. It appears that ABF personnel had performed magnetic particle inspections of this traveler rail bracket weld. ZPMC appears to have ground the weld surface and that this area is being weld repaired. This QA Inspector observed a welding current of approximately 150 amps, the base material had been preheated with a torch and Mr. Wang Fu Peng appears to be certified to make this weld. This QA Inspector observed the area where Mr. Wang Fu Peng is welding does not appear to have been cleaned to remove light rust and other loose debris from the surface of the steel. This QA Inspector informed CWI Mr. Liu Hua Jie if the area that is being welded has been adequately cleaned and after he performed a visual inspection of the area Mr. Liu Hua Jie had Mr. Wang Fu Peng use a wire brush to clean the area prior to additional welding. Items observed on this date do not appear to fully comply with applicable contract documents.

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Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
